CLAIMS:

1.

A fuel system with a fuel tank having an interior adapted to retain a supply of fuel for an internal combustion engine, comprising:

a primary fuel pump having an inlet in communication with the interior of the fuel tank and through which fuel is supplied to the primary fuel pump, and an output of pressurized fuel for delivery to an engine;

a secondary fuel pump driven by some of the output of pressurized fuel of the primary fuel pump;

a valve disposed between the output of pressurized fuel of the primary fuel pump and the secondary fuel pump and movable to open and closed positions, a chamber in the valve in which fuel may be received, at least one orifice in fluid communication with the chamber and the interior of the fuel tank, and a valve member received at least in part in the chamber for movement between a position opening the valve to permit flow of pressurized fuel to the secondary fuel pump and to a position closing the valve to at least substantially restrict fuel flow to the secondary pump, and movement of the spool toward the position opening the valve causes fuel in the chamber to be displaced out of the chamber through said at least one orifice to retard opening of the valve.

2.

The fuel system of claim 1 further comprising a spring and wherein the valve member includes a spool with the spring yieldably biasing the spool toward the closed position.

3.

The fuel system of claim 2 wherein an end of the spool has a pocket extending therein for receiving at least a portion of the spring.

4.

The fuel system of claim 1 wherein the valve member is a spool that at least substantially prevents the inlet and outlet of the valve from communicating with the chamber.

5.

The fuel system of claim 4 wherein the chamber communicates with the interior of the fuel tank through said at least one orifice so that fuel enters the chamber and leaves the chamber through said at least one orifice.

6.

The fuel system of claim 4 which also includes a check valve in communication with the chamber to permit fuel to enter the chamber through the check valve and prevent fuel from leaving the chamber through the check valve.

7.

The fuel system of claim 6 wherein the check valve has an opening with a flow area that is greater in size than said at least one orifice to permit

fuel to enter the chamber through the check valve at a faster rate than through said at least one orifice.

8.

The fuel system of claim 1 wherein the valve includes a valve body with said at least one orifice formed in the valve body.

9.

The fuel system of claim 8 wherein said at least one orifice comprises a plurality of orifices with each orifice formed in said valve body.

10.

The fuel system of claim 9 wherein the valve body includes a plug and at least one of said orifices is formed in the plug.

11.

The fuel system of claim 9 wherein the valve body includes a plug and a plurality of orifices are formed in the plug.

12.

The fuel system of claim 10 wherein said plug includes a plurality of disks and spacers disposed adjacent one another with each disk having a through hole.

13.

The fuel system of claim 12 wherein at least two of the through holes are circumferentially offset from one another.

14.

The fuel system of claim 12 wherein at least an adjacent disk and a spacer have differently sized through holes.

15.

The fuel system of claim 12 wherein at least two disks have similarly sized through holes and a spacer washer positioned between said two disks has a through hole that is larger than either of the through holes in said two disks.

16.

The fuel system of claim 15 wherein said similarly sized through holes are circumferentially offset from one another.

17.

The fuel system of claim 10 wherein said plug includes at least one scallop extending generally circumferentially relative to a longitudinal axis of the body and has at least two channels extending generally axially from the at least one scallop and in generally opposite directions from one another, said scallop and channels defining a serpentine flow path including said at least one orifice.

18.

The fuel system of claim 1 wherein the spool is cylindrical.

19.

The fuel system of claim 18 wherein the spool has an outer surface and at least one circumferential groove extending radially into the outer surface.

20.

The fuel system of claim 19 wherein the spool is molded as a single piece of material.

21.

The fuel system of claim 1 wherein the valve member includes a spool and the chamber has a stop surface for engaging the spool when the spool is in the closed position.

22.

The fuel system of claim 21 wherein the spool has a flange extending radially outwardly from an outer surface of the spool for engaging the stop surface when the spool is in the closed position.

23.

The fuel system of claim 22 further comprising a spring bearing on the flange and yieldably biasing the spool toward the closed position.

24.

The fuel system of claim 1 wherein the valve member includes a spool that has a bore extending along at least a portion of its length and in communication with the inlet for receiving fuel flowing in the inlet of the valve body tending to move the spool toward the open position.

25.

The fuel system of claim 24 wherein the spool has an outer surface with an opening communicating with the bore allowing fuel to flow in the inlet, through the bore, out the opening and through the outlet when the spool is in the open position.

26.

The fuel system of claim 25 wherein the opening registers at least in part with the outlet in the valve body when the spool is in the open position and the opening is spaced from the outlet when the spool is in the closed position.

27.

The fuel system of claim 1 wherein the secondary pump is a jet pump including a nozzle in communication with the outlet of the valve and a venturi aligned with the nozzle.

28.

The fuel system of claim 1 wherein said at least one orifice is sized to provide a restriction to fuel flow out of the chamber and control at least in part the movement of the valve member toward the open position.

29.

The fuel system of claim 9 wherein the plurality of orifices are arranged in series to provide a restriction to fluid flow out of the chamber and control at least in part the movement of the spool toward the open position.

30.

A valve for controlling flow of a fluid, comprising:

a valve body defining at least in part a chamber and having an orifice in communication with the chamber, an inlet, and an outlet; and

a valve member received at least in part in the chamber for reciprocation between an open position permitting fluid flow through the inlet and into the outlet, and a closed position at least substantially restricting fluid flow from the inlet through the outlet, and movement of the spool toward its open position causing fluid in the chamber to be displaced out of the chamber through said at least one orifice.

31.

The valve of claim 30 further comprising a spring yieldably biasing the valve member toward the closed position.

32.

The valve of claim 30 wherein the valve member includes a spool and the chamber is defined at least in part by the spool and is in communication with said at least one orifice with the inlet and outlet of the valve at least substantially prevented from communicating with the chamber.

33.

The valve of claim 32 wherein fluid enters the chamber and leaves the chamber through said at least one orifice.

34.

The valve of claim 32 which also includes a check valve in communication with the chamber to permit fluid to enter the chamber through the check valve and prevent fluid from leaving the chamber through the check valve.

35.

The valve of claim 34 wherein the check valve has an opening with a flow area that is greater in size than said at least one orifice to permit fluid to

enter the chamber through the check valve at a faster rate than through said at least one orifice.

36.

The valve of claim 30 wherein said at least one orifice comprises a plurality of orifices with each orifice received in said valve body.

37.

The valve of claim 36 wherein the valve body includes a plug and at least one of said orifices is formed in the plug.

38.

The valve of claim 36 wherein the valve body includes a plug and a plurality of orifices are formed in the plug.

39.

The valve of claim 38 wherein said plug includes a plurality of disks disposed adjacent one another with each disk having a through hole.

40.

The valve of claim 38 wherein said plug includes at least one scallop extending generally circumferentially relative to a longitudinal axis of the body and has at least two channels extending generally axially from the at least one scallop and in generally opposite directions from one another, said

scallop and channels defining a serpentine flow path including said at least one orifice.

41.

The valve of claim 30 wherein the valve member is a generally cylindrical spool.

42.

The valve of claim 30 wherein the valve member includes a spool that has a bore extending along at least a portion of its length and in communication with the inlet for receiving fluid flowing in the inlet of the valve body and tending to move the spool toward the open position.

43.

The valve of claim 42 wherein the spool has an outer surface with an opening communicating with the bore allowing fluid to flow in the inlet, through the bore, out the opening and through the outlet when the spool is in the open position.

44.

The valve of claim 43 wherein the opening registers at least in part with the outlet in the valve body when the spool is in the open position and the opening is spaced from the outlet when the spool is in the closed position.

45.

The valve of claim 30 wherein said at least one orifice is sized to restrict fluid flow out of the chamber and control at least in part the movement of the valve member toward the open position.

46.

The valve of claim 36 wherein the plurality of orifices are arranged in series to provide a restriction to fluid flow out of the chamber and control at least in part the movement of the valve member toward the open position.